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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/667,186	09/21/2000	Robert K. Jenner	1009-0100	8355

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EXAMINER

JIMENEZ, MARC QUEMUEL

ART UNIT	PAPER NUMBER
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3726

DATE MAILED: 03/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/667,186

Applicant(s)

JENNER ET AL.

Examiner

Marc Jimenez

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MF

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1, 2, 4, 9-19, and 24-26** are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakamiya et al. (4,833,776) in view of either one of Neff et al. (6,076,875) or Bloomberg et al. (5,562,320).

Wakamiya et al. teach a component manipulation system comprising: first **26a** and second **26b** opposed jaws for cooperatively engaging a component **1**, a first y-axis position detection system **30a** (col. 4, lines 49-53) for detecting a y-axis position of the first jaw **26a**, a second y-axis position detection system (attached to **26b**) for detecting a y-axis position of the second jaw **26b**, a first y-axis actuator **34** for positioning the first jaw along the y-axis **23**, and a second y-axis actuator (attached to **26b**) for positioning the second jaw along the y-axis. Note that Wakamiya et al. actually teach a first x-axis actuator for position the first jaw along the x-axis, and a second x-axis actuator for positioning the second jaw along the x-axis (see lead lines **10,11,12** and axis **21**).

Wakamiya et al. teach the invention cited with the exception of having a first x-axis position detection system for detecting an x-axis position of the first jaw, and a second x-axis position detection system for detecting an x-axis position of the second jaw.

Neff et al. teach a first x-axis position detection system (col. 3, lines 61-62) for detecting an x-axis position of the first jaw **54**, a second x-axis position detection system (col. 3, lines 61-63) for detecting an x-axis position of the second jaw **52**, a first x-axis actuator **42** for position the first jaw along the x-axis, and a second x-axis actuator **40** for positioning the second jaw **52** along the x-axis. Note that the x-axis actuators of Neff are independently operated x-actuators.

Bloomberg et al. teach a first x-axis position detection system **15a** (col. 4, lines 45-46) for detecting an x-axis position of the first jaw **18**, a second x-axis position detection system **15b** (col. 4, lines 45-46) for detecting an x-axis position of the second jaw **20**, a first x-axis actuator **15a** (col. 4, lines 45-46) for position the first jaw along the x-axis, and a second x-axis actuator **15b** (col. 4, lines 45-46) for positioning the second jaw along the x-axis. Note that the x-axis actuators of Bloomberg et al. are independently operated x-axis actuators.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Wakamiya et al. with a first x-axis position detection system for detecting an x-axis position of the first jaw, a second x-axis position detection system for detecting an x-axis position of the second jaw, in light of the teachings of either one of Neff et al. or Bloomberg et al., in order to provide accurate lateral positioning of the jaws (as suggested by Neff et al. at col. 2, lines 35-39) and in order to accurately sense the position of the jaws by providing position-sensing (as suggested by Bloomberg et al. at col. 3, lines 45-47). Furthermore, it would have been obvious to one of ordinary skill in the art, at the time of the invention to have

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provided the invention of Wakamiya et al. with the x-axis actuators of either one of Neff et al. or Bloomberg et al., in order to provide increased precision by providing independently operable x-axis actuators.

Note that the first and second jaws are adapted to engage an optical component.

Note that Wakamiya et al. teach a system frame **18**, first and second stages **17a, b**, to which the respective jaws, position detection systems, and actuators are attached, jaws **26a, b** that extend downward to engage from above, and a substrate **5** stage. Note that Neff et al. teach a controller **48** and voice coil system actuators **42, 40**, the position detection system comprises an optical encoder and grating (col. 7, line 57).

3. **Claims 3, 5, 20, and 21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakamiya et al. in view of either one of Neff et al. or Bloomberg et al. as applied to **Claims 1, 4, and 16** above, and further in view of Novak et al. (5,996,437).

Wakamiya et al./Neff et al. or Wakamiya et al./Bloomberg et al. teach the invention cited above with the exception of using air bearings between the jaws and frame. It is noted, however, that the attachment between the jaws **26a** and frame **10** is a slidably mounted (col. 4, lines 17-18) to post **27a**.

Novak et al. teach air bearings **66a-c** to provide for slidably mounted components.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Wakamiya et al./Neff et al. or Wakamiya et al./Bloomberg et al. with air bearings, in light of the teachings of Novak et al., in order to provide low friction sliding (as suggested by Novak et al. at col. 7, lines 43-46).

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4. **Claims 6, 8 and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakamiya et al. in view of either one of Neff et al. or Bloomberg et al. as applied to **Claims 1 and 16** above, and further in view of Althaus et al. (5,255,333).

Wakamiya et al./Neff et al. or Wakamiya et al./Bloomberg et al. teach the invention cited above with the exception of having a jaw heater for heating at least one of the first and second jaws.

Althaus et al. teach a jaw heater (col. 3, lines 51-64) for heating at least one of first and second jaws **13**.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Wakamiya et al./Neff et al. or Wakamiya et al./Bloomberg et al. with a jaw heater for heating at least one of the first and second jaws, in light of the teachings of Althaus et al., in order to provide a means to heat a solder that is used to attach a component to a substrate (as suggested by Althaus et al. at col. 3, lines 51-64).

5. **Claims 7 and 23** are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakamikya et al./Neff et al. or Wakamikya et al./Bloomberg et al. in view of Althaus et al. as applied to **Claims 6 and 22** above, and further in view of Kalina (4,214,353).

Wakamiya et al./Neff et al./Althaus et al. or Wakamiya et al./Bloomberg et al./Althaus teach the invention cited above with the exception of the heating being done by a laser. Instead, Althaus teaches induction heating the jaws (col. 3, lines 51-64).

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Kalina teaches heating by a laser (col. 3, lines 21-24). Furthermore, Kalina teaches that laser heating is an equivalent heating means as induction heating. Therefore, because laser and induction heating are art recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute induction heating for laser heating.

Response to Arguments

6. Applicant's arguments filed 1/29/03 have been fully considered but they are not persuasive.

7. Applicant argues that none of the applied references teach controlling two jaws in both the X and Y axes. It is noted however, that Wakamiya et al. teach controlling jaws **26a,26b** in both X and Y axes **21,23**. What Wakamiya et al. do not teach as noted in the rejections above is a position detection system for the x axis. However, Wakamiya et al. do specifically teach that the jaws **26a,26b** are moveable along the X axis (col. 4, lines 60-62). Wakamiya et al. teach 'Fingers **26a** and **26b**, using lead screws **11** and **12**, are laterally moved parallel to the first axis **21**'. In view of either Neff et al. or Bloomberg et al., it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Wakamiya et al. with position detection system for the x axis, in order to provide accurate lateral positioning of the jaws (as suggested by Neff et al. at col. 2, lines 35-39) or in order to accurately sense the position of the jaws by providing position-sensing (as suggested by Bloomberg et al. at col. 3, lines 45-47). Note that Wakamiya does disclose 1st and 2nd x-axis actuators (see lead lines 10,11,12, and axis 21). Neff and Bloomberg also teach x-axis actuators which are independently operable.

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Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Wakamiya with the x-actuators of either Neff or Bloomberg to provide increased precision.

8. In response to applicant's argument that the present invention is to be used for the positioning of optical components and directed to a different problem, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Interviews After Final

10. Applicant note that an interview after a final rejection will not be granted unless the intended purpose and content of the interview is presented briefly, in writing (the agenda of the interview must be in writing) to clarify issues for appeal requiring only nominal further consideration. Interviews merely to restate arguments of record or to discuss new limitations will be denied. See MPEP 714.13 and 713.09.

Contact Information

11. Telephone inquiries regarding the status of applications or other general questions, by persons entitled to the information, should be directed to the group clerical personnel. In as much as the official records and applications are located in the clerical section of the examining groups, the clerical personnel can readily provide status information. M.P.E.P. 203.08. The Group clerical receptionist number is (703) 308-1148.

If in receiving this Office Action it is apparent to applicant that certain documents are missing, e.g., copies of references cited, form PTO-1449, form PTO-892, etc., requests for copies of such papers or other general questions should be directed to Tech Center 3700 Customer Service at (703) 306-5648, or fax (703) 872-9301 or by email to CustomerService3700@uspto.gov.

Any inquiry concerning this communication or earlier communications from the

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examiner should be directed to Marc Jimenez whose telephone number is **703-306-5965**. The examiner can normally be reached on **Monday-Friday, between 5:30 am- 2:00 pm**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Greg Vidovich can be reached on 703-308-1513. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9302 for regular communications and 703-872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1148.

Other helpful telephone numbers are listed for applicant's benefit.

Allowed Files & Publication	(703) 308-6789 or (888) 786-0101
Assignment Branch	(703) 308-9723
Certificates of Correction	(703) 305-8309
Drawing Corrections/Draftsman	(703) 305-8404/8335
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If the information desired is not provided above, or a number has been changed, please call the general information help line below.

Information Help line	1-800-786-9199
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MJ

March 12, 2003


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